Math 112
LQuiz 06

2022–01–27 (R)

Your name: _____

Exercise

(4 pt) Consider the function

$$f : \mathbf{R} \to \mathbf{R} \qquad \text{given by} \qquad f(x) = x^3 - x + \sin x$$

(a) (3 pt) Compute the linearization of (aka linear approximation to) f at $x = 0$.

(b) (1 pt) Sketch a graph of your linearization of f at $x = 0$. Clearly label the point $(0, f(0))$ and the slope. (While you will not be graded on the following, if you have spare time, try to sketch the graph of f near $x = 0$. Can you weave a coherent story from these parts?)